WEST

Help | Logout | Interrupt

Main Menu | Search Form | Posting Counts | Show S Numbers | Edit S Numbers | Preferences

Search Results -

Terms	Documents
heteropolyacid catalyst and l2	1

Database: US Patents Full-Text Database; US Pre-Grant Publication Full-Text Database; JPO Abstracts Database; EPO Abstracts Database; Derwent World Patents Index; IBM Technical Disclosure Bulletins

Refine Search: heteropolyacid catalyst and l2 Clear

Search History

Today's Date: 9/17/2001

DB Name	Query	Hit Count	Set Name
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	heteropolyacid catalyst and l2	1	L4
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	heteropolyacid catalyst	286	L3
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	aliphatic ester and l1	434	L2
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	ion exchange or zeolite	148676	L1

WEST

Generate Collection

Search Results - Record(s) 1 through 1 of 1 returned.

☐ 1. Document ID: EP 1097120 A1, WO 200003966 A1, AU 9946323 A, BR 9912038 A

L4: Entry 1 of 1 File: DWPI May 9, 2001

DERWENT-ACC-NO: 2000-171231
DERWENT-WEEK: 200128

TITLE: Vapor phase production of lower aliphatic esters, by reacting a lower olefin with a saturated lower aliphatic mono-carboxylic acid which have had basic nitrogenous compounds removed prior to contact with a heteropolyacid catalyst

INVENTOR: COKER, E N; FROOM, S F T ; SMITH, W J

PRIORITY-DATA: 1998GB-0015117 (July 14, 1998)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
EP 1097120 A1	May 9, 2001	E	000	C07C067/04
WO 200003966 A1	January 27, 2000	E	016	C07C067/04
AU 9946323 A	February 7, 2000	N/A	000	C07C067/04
BR 9912038 A	April 3, 2001	N/A	000	C07C067/04

INT-CL (IPC): C07C 67/04; C07C 69/14

Full | Title CLS.1 REF.1

Generate Collection

Terms	Documents
heteropolyacid catalyst and l2	1

Display 10 Documents, starting with Document: 1

Display Format: CIT Change Format

DB Name	Query	Hit Count	Set Name
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	l10 and acetic acid and ammonia	9	L12
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	l10 and acetic acid	13	L11
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	ion exchange and heteropolyacid catalyst	32	L10
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	ion exchange and l4 and hetero poly acid catalyst	0	L9
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	ion exchange and l4 and hetero polyacid catalyst	0	L8
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	ion exchange and l4 and heteropolyacid catalyst	0	L7
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	ion exchange and l4	2	L6
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	l4 and nitrogen$5	1	L5
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	5241106.pn. or 4205182.pn. or 3644497.pn. or 4405808.pn. or 4927954.pn.	14	L4
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	l1 and nitrogen$5	0	L3
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	l1 and nitrogenous compound	0	L2
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	ep-538826-$.did.	2	L1

WEST

Generate Collection

Search Results - Record(s) 1 through 9 of 9 returned.

☐ 1. Document ID: US 6040472 A

L12: Entry 1 of 9 File: USPT Mar 21, 2000

US-PAT-NO: 6040472
DOCUMENT-IDENTIFIER: US 6040472 A

TITLE: Catalyst for use in producing carboxylic esters

DATE-ISSUED: March 21, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Yamamatsu; Setsuo	Fuji	N/A	N/A	JPX
Yamaguchi; Tatsuo	Shizuoka-ken	N/A	N/A	JPX
Yokota; Koshiro	Pasadena	CA	N/A	N/A

US-CL-CURRENT: 560/210; 502/102, 560/238

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw Desc | Image

☐ 2. Document ID: US 5621097 A

L12: Entry 2 of 9 File: USPT Apr 15, 1997

US-PAT-NO: 5621097
DOCUMENT-IDENTIFIER: US 5621097 A

TITLE: Oxidation of organosulphur compounds

DATE-ISSUED: April 15, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Brown; Scott W.	Standish	N/A	N/A	GBX
Lee; Angela M.	West Derby	N/A	N/A	GBX
Oakes; Stephen C.	Widnes	N/A	N/A	GBX

US-CL-CURRENT: 540/342; 562/115, 562/30

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw Desc | Image

☐ 3. Document ID: US 5510308 A

L12: Entry 3 of 9 File: USPT Apr 23, 1996

US-PAT-NO: 5510308
DOCUMENT-IDENTIFIER: US 5510308 A

TITLE: Cation and vanadium substituted heteropolyacid catalysts for vapor phase oxidation

DATE-ISSUED: April 23, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kourtakis; Kostantinos	Hockessin	DE	N/A	N/A

US-CL-CURRENT: 502/209; 549/259

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw Desc | Image

---

☐ 4. Document ID: US 4853357 A

L12: Entry 4 of 9 File: USPT Aug 1, 1989

US-PAT-NO: 4853357
DOCUMENT-IDENTIFIER: US 4853357 A

TITLE: Olefin oxidation catalyst system

DATE-ISSUED: August 1, 1989

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Vasilevskis; Janis	Los Gatos	CA	N/A	N/A
De Deken; Jacques C.	Palo Alto	CA	N/A	N/A
Saxton; Robert J.	Mountain View	CA	N/A	N/A
Wentrcek; Paul R.	Redwood City	CA	N/A	N/A
Fellmann; Jere D.	Livermore	CA	N/A	N/A
Kipnis; Lyubov S.	Sunnyvale	CA	N/A	N/A

US-CL-CURRENT: 502/165; 502/167, 502/170, 502/201, 502/204, 502/206, 502/207, 502/209, 502/210, 502/211, 502/213, 502/215, 502/217, 502/218, 502/219, 502/220, 502/221, 502/228, 502/230, 502/241, 502/242, 502/245, 502/246, 502/247, 502/254, 502/255, 502/262, 502/305, 502/308, 502/311, 502/312, 502/313, 502/314, 502/316, 502/324, 502/326, 502/331, 502/338, 502/339

Full | Title | Citation | Front | Review | Classification | Date | Reference | KWIC | Draw Desc | Image

---

☐ 5. Document ID: US 4723041 A

L12: Entry 5 of 9 File: USPT Feb 2, 1988

US-PAT-NO: 4723041
DOCUMENT-IDENTIFIER: US 4723041 A

TITLE: Olefin oxidation catalyst system

DATE-ISSUED: February 2, 1988

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Vasilevskis; Janis	Los Gatos	CA	N/A	N/A
De Deken; Jacques C.	Palo Alto	CA	N/A	N/A
Saxton; Robert J.	Mountain View	CA	N/A	N/A
Wentrcek; Paul R.	Redwood City	CA	N/A	N/A
Fellmann; Jere D.	Livermore	CA	N/A	N/A
Kipnis; Lyubov S.	Sunnyvale	CA	N/A	N/A

US-CL-CURRENT: 568/401; 568/360

Full | Title | Citation | Front | Review | Classification | Date | Reference | KWIC | Draw Desc | Image

---

☐ 6. Document ID: US 4720474 A

L12: Entry 6 of 9 File: USPT Jan 19, 1988

US-PAT-NO: 4720474
DOCUMENT-IDENTIFIER: US 4720474 A

TITLE: Olefin oxidation catalyst system

DATE-ISSUED: January 19, 1988

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Vasilevskis; Janis	Los Gatos	CA	N/A	N/A
De Deken; Jacques C.	Palo Alto	CA	N/A	N/A
Saxton; Robert J.	Mountain View	CA	N/A	N/A
Wentrcek; Paul R.	Redwood City	CA	N/A	N/A
Fellmann; Jere D.	Livermore	CA	N/A	N/A
Kipnis; Lyubov S.	Sunnyvale	CA	N/A	N/A

US-CL-CURRENT: 502/165; 502/167, 502/170, 502/201, 502/204, 502/206, 502/207, 502/209, 502/210, 502/211, 502/213, 502/215, 502/217, 502/218, 502/219, 502/220, 502/221, 502/228, 502/230, 502/241, 502/242, 502/245, 502/254, 502/255, 502/262, 502/305, 502/308, 502/313, 502/314

Full | Title | Citation | Front | Review | Classification | Date | Reference | KWIC | Draw Desc | Image

---

☐ 7. Document ID: US 4508918 A

L12: Entry 7 of 9 File: USPT Apr 2, 1985

US-PAT-NO: 4508918
DOCUMENT-IDENTIFIER: US 4508918 A

TITLE: Method of producing cyclohexane derivatives directly from aromatic hydrocarbons

DATE-ISSUED: April 2, 1985

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Yasuhara; Yutaka	Nagoya	N/A	N/A	JPX
Nishino; Masaki	Nagoya	N/A	N/A	JPX
Matsuhisa; Seikichi	Nagoya	N/A	N/A	JPX

US-CL-CURRENT: 560/241; 568/338, 568/376, 568/832, 568/834, 568/835, 570/212, 585/269

Full | Title | Citation | Front | Review | Classification | Date | Reference | KWIC | Draw Desc | Image

---

☐ 8. Document ID: US 4212990 A

L12: Entry 8 of 9 File: USPT Jul 15, 1980

US-PAT-NO: 4212990
DOCUMENT-IDENTIFIER: US 4212990 A

TITLE: Method for producing cyclohexane derivatives directly from aromatic hydrocarbons

DATE-ISSUED: July 15, 1980

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Yasuhara; Yutaka	Nagoya	N/A	N/A	JPX
Nishino; Masaki	Nagoya	N/A	N/A	JPX
Matsuhira; Seikichi	Nagoya	N/A	N/A	JPX

US-CL-CURRENT: 560/241; 568/376, 568/832, 568/834, 568/835, 585/269

Full | Title | Citation | Front | Review | Classification | Date | Reference | KWIC | Draw Desc | Image

---

☐ 9. Document ID: US 4067915 A

L12: Entry 9 of 9 File: USPT Jan 10, 1978

US-PAT-NO: 4067915
DOCUMENT-IDENTIFIER: US 4067915 A

TITLE: Method for producing cyclohexane derivatives directly from aromatic hydrocarbons

DATE-ISSUED: January 10, 1978

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Yasuhara; Yutaka	Nagoya	N/A	N/A	JA
Nishino; Masaki	Nagoya	N/A	N/A	JA
Matsuhisa; Seikichi	Nagoya	N/A	N/A	JA

US-CL-CURRENT: 570/212; 560/231, 568/832, 568/834, 568/835

Full | Title | Citation | Front | Review | Classification | Date | Reference | KWIC | Draw Desc | Image

Generate Collection

Terms	Documents
l10 and acetic acid and ammonia	9

Display 10 Documents, starting with Document: 9

Display Format: CIT Change Format

WEST

Help | Logout | Interrupt

Main Menu | Search Form | Posting Counts | Show S Numbers | Edit S Numbers | Preferences

Search Results -

Terms	Documents
l10 and acetic acid and ammonia	9

Database: US Patents Full-Text Database; US Pre-Grant Publication Full-Text Database; JPO Abstracts Database; EPO Abstracts Database; Derwent World Patents Index; IBM Technical Disclosure Bulletins

Refine Search: l10 and acetic acid and ammonia Clear

Search History

Today's Date: 9/17/2001

FILE 'HOME' ENTERED AT 14:32:37 ON 17 SEP 2001

=> file registry
COST IN U.S. DOLLARS | SINCE FILE ENTRY | TOTAL SESSION
FULL ESTIMATED COST | 0.15 | 0.15

FILE 'REGISTRY' ENTERED AT 14:32:59 ON 17 SEP 2001
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

STRUCTURE FILE UPDATES: 16 SEP 2001 HIGHEST RN 357163-97-4
DICTIONARY FILE UPDATES: 16 SEP 2001 HIGHEST RN 357163-97-4

TSCA INFORMATION NOW CURRENT THROUGH January 11, 2001

Please note that search-term pricing does apply when conducting SmartSELECT searches.

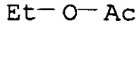
Structure search limits have been increased. See HELP SLIMIT for details.

=> s ethyl acetate/cn
L1 1 ETHYL ACETATE/CN

=> ds l1
DS IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).

=> d l1

L1 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2001 ACS
RN 141-78-6 REGISTRY
CN Acetic acid ethyl ester (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN Acetic acid, ethyl ester
CN Acetic ether
CN Acetidin
CN Acetoxyethane
CN **Ethyl acetate**
CN Ethyl ethanoate
CN EtOAc
CN Vinegar naphtha
FS 3D CONCORD
MF C4 H8 O2
CI COM
LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PDLCOM*, PIRA, PROMT, RTECS*, SPECINFO, SYNTHLINE, TOXLINE, TOXLIT, TRCTHERMO*, TULSA, ULIDAT, USAN, USPATFULL, VETU, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



17386 REFERENCES IN FILE CA (1967 TO DATE)
98 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
17416 REFERENCES IN FILE CAPLUS (1967 TO DATE)

=> file caplus
COST IN U.S. DOLLARS | SINCE FILE ENTRY | TOTAL SESSION
FULL ESTIMATED COST | 5.61 | 5.76

FILE 'CAPLUS' ENTERED AT 14:33:50 ON 17 SEP 2001
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1947 - 17 Sep 2001 VOL 135 ISS 13
FILE LAST UPDATED: 16 Sep 2001 (20010916/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

This file supports REG1stRY for direct browsing and searching of all substance data from the REGISTRY file. Enter HELP FIRST for more information.

CAplus now provides online access to patents and literature covered in CA from 1947 to the present. On April 22, 2001, bibliographic information and abstracts were added for over 2.2 million references published in CA from 1947 to 1966.

The CA Lexicon is now available in the Controlled Term (/CT) field. Enter HELP LEXICON for full details.


```
=> s 141-78-6/prep
         17420 141-78-6
       2778383 PREP/RL
L2        1270 141-78-6/PREP
               (141-78-6 (L) PREP/RL)

=> s 141-78-6/pur
         17420 141-78-6
        151139 PUR/RL
L3         133 141-78-6/PUR
               (141-78-6 (L) PUR/RL)

=> s l2 or l3
L4        1270 L2 OR L3

=> s ethylene and acetic acid and l4
        372353 ETHYLENE
        120741 ACETIC
       3005932 ACID
         98859 ACETIC ACID
                (ACETIC(W)ACID)
L5          82 ETHYLENE AND ACETIC ACID AND L4
```

```
=> s ion exchange or zeolite
        883277 ION
        446597 EXCHANGE
        114114 ION EXCHANGE
                  (ION(W)EXCHANGE)
         71202 ZEOLITE
L6      180965 ION EXCHANGE OR ZEOLITE

=> s heteropolyacid catalyst
           901 HETEROPOLYACID
        550524 CATALYST
L7         170 HETEROPOLYACID CATALYST
                  (HETEROPOLYACID(W)CATALYST)

=> s l5 and l6 and l7
L8           0 L5 AND L6 AND L7

=> s l5 and l7
L9           2 L5 AND L7

=> s l5 and l6
L10          8 L5 AND L6

=> d l9 1-2 ibib abs hitstr

L9   ANSWER 1 OF 2  CAPLUS  COPYRIGHT 2001 ACS
ACCESSION NUMBER:        1999:634057  CAPLUS
DOCUMENT NUMBER:         131:338546
TITLE:                   Research and development on esterification technology
                         for acetic acid with
                         ethylene to prepare ethyl acetate
AUTHOR(S):               Zhu, Ji-fang; Liao, Shi-jun; Chen, Huan-qing; Mei,
                         Ci-yun
CORPORATE SOURCE:        Dep. Appl. Chem., South China Univ. Technol., Canton,
                         510641, Peop. Rep. China
SOURCE:                  Huaxue Fanying Gongcheng Yu Gongyi (1999), 15(3),
                         314-321
                         CODEN: HFGGEU; ISSN: 1001-7631
PUBLISHER:               Zhejiangsheng Chuban Duiwai Maoyi Gongsi
DOCUMENT TYPE:           Journal; General Review
LANGUAGE:                Chinese
AB   A review with 25 refs.  The advances in esterification of acetic
     acid with ethylene to prep. Et acetate, including the
     catalyst and kinetics researches were described.  Among the catalysts
     developed, the heteropoly compd. catalyst holds some promise in use of
     practical applications.
IT   141-78-6P, Ethyl acetate, preparation
     RL: SPN (Synthetic preparation); PREP (Preparation)
        (development of technol. for esterification of acetic
        acid with ethylene to Et acetate)
RN   141-78-6  CAPLUS
CN   Acetic acid ethyl ester (8CI, 9CI)  (CA INDEX NAME)


Et—O—Ac


L9   ANSWER 2 OF 2  CAPLUS  COPYRIGHT 2001 ACS
ACCESSION NUMBER:        1979:574834  CAPLUS
DOCUMENT NUMBER:         91:174834
TITLE:                   Ethyl esters of aliphatic carboxylic acids
INVENTOR(S):             Izumi, Yusuke; Maekawa, Junji; Suzuki, Katsumi
PATENT ASSIGNEE(S):      Tokuyama Soda Co., Ltd., Japan
SOURCE:                  Ger. Offen., 29 pp.
                         CODEN: GWXXBX
```

DOCUMENT TYPE: Paten
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2842265	A1	19790405	DE 1978-2842265	19780928
JP 54052025	A2	19790424	JP 1977-115540	19770928
JP 56030334	B4	19810714		
US 4205182	A	19800527	US 1978-945666	19780925
GB 2005679	A	19790425	GB 1978-38352	19780927
GB 2005679	B2	19820127		
CA 1128544	A1	19820727	CA 1978-312172	19780927
FR 2404621	A1	19790427	FR 1978-27754	19780928
FR 2404621	B1	19800704		

PRIORITY APPLN. INFO.: JP 1977-115540 19770928

AB Et alkanoates were prepd. by liq. phase esterification of aliph. carboxylic acids with CH2:CH2 over a heteropolyacid of W or acidic metal salt thereof in the presence of .ltoreq.7% H2O. Thus, passing CH2:CH2 into AcOH contg. H4(SiW12O40) and 1.8% H2O 3 h at 210.degree. gave 38.5% EtOAc, 0.07% AcO-, and 0.06% AcOCHMeEt, with 38.6% yield of EtOAc with 99.2% selectivity.

IT **141-78-6P**, preparation
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(prepn. of, by tungsten heteropolyacid-catalyzed esterification of **acetic acid** with **ethylene**)

RN 141-78-6 CAPLUS
CN Acetic acid ethyl ester (8CI, 9CI) (CA INDEX NAME)

Et—O—Ac

=> s l10 1-5 ibibi abs
MISSING OPERATOR L10 1-5
The search profile that was entered contains terms or
nested terms that are not separated by a logical operator.

=> d l10 1-5 ibibi abs
'IBIBI' IS NOT A VALID FORMAT FOR FILE 'CAPLUS'

The following are valid formats:

ABS --------- GI and AB
ALL --------- BIB, AB, IND, RE
APPS -------- AI, PRAI
BIB --------- AN, plus Bibliographic Data and PI table (default)
CAN --------- List of CA abstract numbers without answer numbers
CBIB -------- AN, plus Compressed Bibliographic Data
DALL -------- ALL, delimited (end of each field identified)
DMAX -------- MAX, delimited for post-processing
FAM --------- AN, PI and PRAI in table, plus Patent Family data
FBIB -------- AN, BIB, plus Patent FAM
IND --------- Indexing data
IPC --------- International Patent Classifications
MAX --------- ALL, plus Patent FAM, RE
PATS -------- PI, SO
SAM --------- CC, SX, TI, ST, IT
SCAN -------- CC, SX, TI, ST, IT (random display, no answer numbers; SCAN must be entered on the same line as the DISPLAY, e.g., D SCAN or DISPLAY SCAN)
STD --------- BIB, IPC, and NCL

IABS -------- ABS, indented with text labels

```
IALL -------- ALL, indented with text labels
IBIB -------- BIB, indented with text labels
IMAX -------- MAX, indented with text labels
ISTD -------- STD, indented with text labels

OBIB -------- AN, plus Bibliographic Data (original)
OIBIB ------- OBIB, indented with text labels

SBIB -------- BIB, no citations
SIBIB ------- IBIB, no citations

HIT --------- Fields containing hit terms
HITIND ------ IC, ICA, ICI, NCL, CC and index field (ST and IT)
              containing hit terms
HITRN ------- HIT RN and its text modification
HITSTR ------ HIT RN, its text modification, its CA index name, and
              its structure diagram
FHITSTR ----- First HIT RN, its text modification, its CA index name, and
              its structure diagram
KWIC -------- Hit term plus 20 words on either side
OCC --------- Number of occurrence of hit term and field in which it occurs

To display a particular field or fields, enter the display field
codes.  For a list of the display field codes, enter HELP DFIELDS at
an arrow prompt (=>).  Examples of formats include: TI; TI,AU; BIB,ST;
TI,IND; TI,SO.  You may specify the format fields in any order and the
information will be displayed in the same order as the format
specification.

All of the formats (except for SAM, SCAN, HIT, HITIND, HITRN, HITSTR,
FHITSTR, KWIC, and OCC) may be used with DISPLAY ACC to view a
specified Accession Number.
ENTER DISPLAY FORMAT (BIB):end

=> d his

     (FILE 'HOME' ENTERED AT 14:32:37 ON 17 SEP 2001)

     FILE 'REGISTRY' ENTERED AT 14:32:59 ON 17 SEP 2001
L1             1 S ETHYL ACETATE/CN

     FILE 'CAPLUS' ENTERED AT 14:33:50 ON 17 SEP 2001
L2          1270 S 141-78-6/PREP
L3           133 S 141-78-6/PUR
L4          1270 S L2 OR L3
L5            82 S ETHYLENE AND ACETIC ACID AND L4
L6        180965 S ION EXCHANGE OR ZEOLITE
L7           170 S HETEROPOLYACID CATALYST
L8             0 S L5 AND L6 AND L7
L9             2 S L5 AND L7
L10            8 S L5 AND L6

=> d l10 1-5 ibib abs

L10  ANSWER 1 OF 8  CAPLUS  COPYRIGHT 2001 ACS
ACCESSION NUMBER:         1999:686762  CAPLUS
DOCUMENT NUMBER:          131:288011
TITLE:                    Manufacture of ethyl acetate by the addition reaction
                          of acetic acid with
                          ethylene using zeolite catalysts
INVENTOR(S):              Crane, Robert A.; Brown, Stephen H.; De Caul, Lorenzo
PATENT ASSIGNEE(S):       Mobil Oil Corporation, USA
SOURCE:                   U.S., 3 pp.
                          CODEN: USXXAM
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
```

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5973193	A	19991026	US 1998-116385	19980716
WO 2000003968	A1	20000127	WO 1999-US15655	19990712
W: AU, CA, JP, SG				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9949840	A1	20000207	AU 1999-49840	19990712

PRIORITY APPLN. INFO.: US 1998-116385 A 19980716
WO 1999-US15655 W 19990712

AB Et acetate is prepd. in high yield and selectivity by the addn. reaction of **acetic acid** with **ethylene** in the presence of a solid, acidic catalyst comprising a **zeolite** selected from: MCM-22, MCM-49, MCM-56, ZSM-5, and .beta.-**zeolite**.

REFERENCE COUNT: 6
REFERENCE(S): (1) Anon; EP 0031252 1981 CAPLUS
(2) Anon; EP 0073141 1983 CAPLUS
(3) Anon; EP 0538826 1993 CAPLUS
(4) Wunder; US 5225388 1993 CAPLUS
(5) Young; US 4365084 1982 CAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1997:622186 CAPLUS
DOCUMENT NUMBER: 127:292799
TITLE: Catalytic transformation of ethanol over microporous vanadium silicate molecular sieves with MEL structure (VS-2)
AUTHOR(S): Kannan, S.; Sen, T.; Sivasanker, S.
CORPORATE SOURCE: National Chemical Laboratory, Pune, 411 008, India
SOURCE: J. Catal. (1997), 170(2), 304-310
CODEN: JCTLA5; ISSN: 0021-9517
PUBLISHER: Academic
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The transformation of ethanol was carried out over vanadium silicate mol. sieves with MEL topol. (VS-2) with different Si/V at. ratios in the temp. range 523-623 K. The reaction was performed in a fixed-bed down-flow reactor at atm. pressure. Acetaldehyde, di-Et ether, and **ethylene** were the major products along with small amts. of acetone, **acetic acid**, Et acetate, and carbon oxides. The conversion increased while the selectivity toward acetaldehyde decreased with increase in reaction temp. The kinetics of the reaction (at 5% conversion) indicated a nearly first-order dependence of the rate of formation of the major products on ethanol. The formation of acetaldehyde is suggested to be mainly through the involvement of the vanadyl species (V=O) while di-Et ether prodn. is controlled by the simultaneous involvement of V=O and V-O-Si assocd. with vanadium in the lattice. The intrinsic activity of vanadium incorporated into the **zeolite** framework is nearly 10 times that of the vanadium present in the impregnated sample. The nature of the sites involved in the formation of the different products, as elucidated from spectroscopic techniques (NMR and ESR), and the possible reaction mechanisms are proposed.

L10 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1997:238691 CAPLUS
DOCUMENT NUMBER: 126:306527
TITLE: Preparation of polyfunctional metal **zeolite** catalyst for the multistage oxidative conversion of ethyl alcohol into ethyl acetate
AUTHOR(S): Shakhtakhtinskii, T. N.; Aliev, A. M.; Kuliev, A. R.; Medzhidova, S. M.; Muradov, M. Kh.
CORPORATE SOURCE: Inst. Teor. Probl. Khim. Tekhnol. Akad. Nauk, Baku, Azerbaijan
SOURCE: Dokl. Akad. Nauk (1995), 343(4), 496-499

CODEN: AKNEQ; ISSN: 0869-5652
PUBLISHER: MAIK Nauka
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB A multifunctional catalyst effective for all the stages of ethanol gas phase transformation to Et acetate is developed. Copper- and palladium-contg. mordenite, clinoptilolite, and HNaY-type zeolites were tested as catalysts. The most effective in ethanol oxidn. to acetaldehyde is natural clinoptilolite. The optimum metal concn. in clinoptilolite is 0.5% Cu, 0.1% Pd ions.

L10 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1991:209553 CAPLUS
DOCUMENT NUMBER: 114:209553
TITLE: Formation of ketenes by reaction of carboxylic acids over alkali metal-exchanged zeolites
AUTHOR(S): Parker, L. M.; Bibby, D. M.; Miller, I. J.
CORPORATE SOURCE: Chem. Div., DSIR, Petone, N. Z.
SOURCE: J. Catal. (1991), 129(2), 438-46
CODEN: JCTLA5; ISSN: 0021-9517
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The formation of ketene from HOAc by reaction over alkali metal-exchanged zeolites at .apprx.350.degree. and low partial pressure is reported. Acetone and CO2 are also produced. The greatest proportion of ketene is produced by large-pore faujasite zeolites exchanged with the smallest cations (Li+ and Na+). The corresponding ketenes from EtCO2H and iso-PrCO2H, but not PrCO2H, are also obsd. It is possible to react the ketene in situ by addn. of a further reactant to the HOAc feed, provided the addnl. reactant does not react with the **zeolite** catalyst. For example, MeOH and Me2NH an readily acetylated but EtOH reacts to produce C2H4 and water. Reaction of HOAc with Me2NH over NaY at 300.degree. gives a 70% conversion of Me2NH with 100% selectivity to AcNMe2.

L10 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1990:178027 CAPLUS
DOCUMENT NUMBER: 112:178027
TITLE: Catalytic property of HZSM-5 in the esterification reaction. II. Effects of cation-exchange degree, reaction conditions and structure of reactants
AUTHOR(S): Zhang, Huaibin; Zhuang, Mengfu; Li, Hexuan
CORPORATE SOURCE: Dep. Chem., Nankai Univ., Tainjin, Peop. Rep. China
SOURCE: Ranliao Huaxue Xuebao (1989), 17(1), 62-8
CODEN: RHXUD8; ISSN: 0253-2409
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB The effects of cation-exchange degree, reaction conditions and structure of reactants on the catalytic property were discussed. It was found that the catalytic activity underwent abrupt increase at 60% cation-exchange for ethanol esterification and at 70% for 1-butanol. The phenomenon was closely related to the strength of the acid sites and the sizes of reactant and product mols. Stability expts. confirmed that the stability of catalyst was obviously reduced when the degree of cation-exchange exceeded 73%, owing to coke formation at strong acid sites. Esterification of **acetic acid** with C1-C6 alcs. on HZSM-5 **zeolite** proved that **ethylene** was not formed with ethanol, and small quantities of olefins were formed with 1-propanol, 1-butanol, 1-pentanol and 1-hexanol. However, the esterifications of **acetic acid** with isopropanol produced only 5% of ester, and with tert-Bu alc., no ester was formed because alkenes were the major products. The esterification of benzyl alc. with **acetic acid** and hexanoic acid and the esterification of cyclohexanol with **acetic acid** were all successful, but the esterification of benzoic acid with 1-butanol was difficult on HZSM-5 due to steric hindrance.

```
     FILE 'REGISTRY' ENTERED AT 14:32:59 ON 17 SEP 2001
L1         1 S ETHYL ACETATE/CN

     FILE 'CAPLUS' ENTERED AT 14:33:50 ON 17 SEP 2001
L2      1270 S 141-78-6/PREP
L3       133 S 141-78-6/PUR
L4      1270 S L2 OR L3
L5        82 S ETHYLENE AND ACETIC ACID AND L4
L6    180965 S ION EXCHANGE OR ZEOLITE
L7       170 S HETEROPOLYACID CATALYST
L8         0 S L5 AND L6 AND L7
L9         2 S L5 AND L7
L10        8 S L5 AND L6

     FILE 'STNGUIDE' ENTERED AT 14:41:43 ON 17 SEP 2001

=> d l10 6-8 ibib abs
YOU HAVE REQUESTED DATA FROM FILE 'CAPLUS' - CONTINUE? (Y)/N:y



L10  ANSWER 6 OF 8  CAPLUS  COPYRIGHT 2001 ACS
ACCESSION NUMBER:        1983:88841  CAPLUS
DOCUMENT NUMBER:         98:88841
TITLE:                   Alkyl carboxylates
INVENTOR(S):             Young, Lewis B.
PATENT ASSIGNEE(S):      Mobil Oil Corp. , USA
SOURCE:                  U.S., 9 pp.
                         CODEN: USXXAM
DOCUMENT TYPE:           Patent
LANGUAGE:                English
FAMILY ACC. NUM. COUNT:  2
PATENT INFORMATION:

     PATENT NO.        KIND  DATE           APPLICATION NO.  DATE
     ---------------   ----  --------       ---------------  --------
     US 4365084         A    19821221       US 1980-218148   19801219
     US 4448983         A    19840515       US 1982-429936   19820930
PRIORITY APPLN. INFO.:                   US 1980-218148      19801219
AB   Carboxylic acids, RCO2H (R = alkyl, acyl, haloalkyl, H) were reacted with
     a linear or slightly branched olefin with up to 20 C and no unsatn. at C-2
     at 250-600.degree. and 104-107 Pa in the presence of a zeolite
     catalyst to yield .alpha.-methylalkyl carboxylates as the major alkyl
     carboxylate product.  Thus esterification of AcOH with E-4-octene in the
     presence of HZSM-12 zeolite catalyst at 150.degree. and 170 psig
     gave 61% 2-octyl acetate, 24% 3-octyl acetate, and 15% 4-octyl acetate.

L10  ANSWER 7 OF 8  CAPLUS  COPYRIGHT 2001 ACS
ACCESSION NUMBER:        1982:527077  CAPLUS
DOCUMENT NUMBER:         97:127077
TITLE:                   Carboxylic acid esters by reaction of olefins with
                         carboxylic acids
INVENTOR(S):             Sato, Haruhito
PATENT ASSIGNEE(S):      Idemitsu Kosan Co., Ltd., Japan
SOURCE:                  Ger. Offen., 24 pp.
                         CODEN: GWXXBX
DOCUMENT TYPE:           Patent
LANGUAGE:                German
FAMILY ACC. NUM. COUNT:  1
PATENT INFORMATION:

     PATENT NO.        KIND  DATE           APPLICATION NO.  DATE
     ---------------   ----  --------       ---------------  --------
     DE 3149979         A1   19820722       DE 1981-3149979  19811217
     DE 3149979         C2   19850620
     JP 57106640        A2   19820702       JP 1980-182856   19801225
```

JP 04046941	B4	19[redacted]731		
US 4465852	A	19840814	US 1981-330010	19811211
CA 1168257	A1	19840529	CA 1981-392493	19811217
GB 2092134	A	19820811	GB 1981-38414	19811221
GB 2092134	B2	19841212		
FR 2497196	A1	19820702	FR 1981-23915	19811222
FR 2497196	B1	19861121		

PRIORITY APPLN. INFO.: JP 1980-182856 19801225

AB Esters were prepd. by reaction of an olefin with a carboxylic acid in the presence of a metal silicate with a mol ratio SiO2-metal oxide .gtoreq.12 and the metal was chosen from groups III, IV, V, VIB, and VIII. Data were given for runs with 7 such catalysts, contg., e.g., Na2O, Cr2O3, B2O3, or La2O3, and AcOH with C2H4 or C3H6.

L10 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1970:31173 CAPLUS
DOCUMENT NUMBER: 72:31173
TITLE: Vapor phase synthesis of esters over porous **ion-exchange** resin catalyst. I. Vapor-phase synthesis of ethyl acetate from **ethylene** and **acetic acid**
AUTHOR(S): Murakami, Yuichi; Hattori, Tatsuhiko; Uchida, Hiroshi
CORPORATE SOURCE: Nagoya Univ., Nagoya, Japan
SOURCE: Kogyo Kagaku Zasshi (1969), 72(9), 1945-8
CODEN: KGKZA7
DOCUMENT TYPE: Journal
LANGUAGE: Japanese

AB In the title synthesis, catalysts were active in the order: porous **ion-exchange** resin Amberlyst 15 (I) > silicotungstic acid-silica gel (II) > phosphoric acid-kieselguhr > gel-form **ion-exchange** resin Amberlite IR-120B. In the case of II, the yield of EtOAc was max. (30%) at 10:1 molar C2H4-AcOH, space velocity 163 hr-1, and 200.degree., but the activity decreased rapidly in 3 hr to 10% yield. When I was used, max. yield of 60% was obtained at 10:1 molar C2H4-EtOH, space velocity 175 hr-1, and 140.degree., but the yield was only 8% at 120.degree. and at 150.degree. catalytic activity decreased rapidly. Addn. of H2O (>10 mole %) decreased the yield of EtOAc to <30% and addn. of .apprx.60 mole % H2O yielded .apprx.10% I. Increase of space velocity and decrease C2H4-AcOH decreased the yield of I.

=>